

# DØ View of the Shutdown Plan

Run II PMG  
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- Cost to DØ of 4-month delay in the shutdown
  - Technical/Physics
  - Momentum, manpower and collaboration morale
- An alternative proposal
- Summary

# Technical/Physics Costs of a 4-Month Delay

- Integrated Lumi collected without Layer-0 upgrade
  - We estimate 300-450 pb<sup>-1</sup>
- Peak Lumi before trigger upgrades
  - Current Level-1 trigger list barely copes at  $L \sim 1.2 \times 10^{32} \text{ cm}^{-2} \text{ s}^{-1}$
  - Would require “wasted” effort to develop new Level-1 list for old hardware if DØ has to survive another six months
- Other issues:
  - Integrated Lumi lost during trigger upgrade commissioning
  - Tests of prototype boards for fibre tracker readout
  - Detector maintenance backlog accumulating

# Project momentum, manpower, collaboration morale

- Highly focused effort from extremely dedicated teams of people
  - working to a target date ~2 months hence
- Cost of additional 4-month delay:
  - loss of focus
  - loss of critical people
  - sabbaticals/visas/individual priorities timed for 31<sup>st</sup> Oct
- Are we anticipating the success of both AD and DØ efforts?
  - If so, we should upgrade DØ experiment before starting to reap the benefit of more running and improved luminosity
- Or are we being told that it is a higher priority to find out whether or not the pbar stacking rate task force will succeed than it is to upgrade DØ?
  - If so, we cannot predict how DØ will react
    - P5: uncertainty about 2008 running,
    - Concern that shutdown for DØ upgrades may never happen
    - Migration to LHC

# DØ proposal for optimized shutdown

- Our attempt to achieve a compromise between the needs of AD, CDF and DØ within a 14-week shutdown
  - which plans for the success of AD and DØ efforts
  - 9th Jan: Tevatron shutdown
    - DØ upgrade installation starts,
    - pbar stacking studies continue,
    - Increased data sample for summer 2006 conferences, as requested by CDF
    - Neutrino programme continues
  - 1st March: Entire complex shuts down
    - Accelerator/feeder work starts
  - 16th April: Return to HEP
- Represents a severe compromise for DØ
  - 10-week delay in upgrade installation
- May require some commensurate compromise from AD

# Summary

- We have worked extremely hard to succeed in being ready for the provisional 31st Oct start date
- We need to install the DØ upgrades as soon they are ready in order to:
  - reap the greatest possible benefits
  - complete installation and commissioning before the critical people move onto other things
  - avoid severe damage to collaboration morale
- We believe a compromise solution can be found that achieves a better balance between the needs of AD, CDF and DØ